

REMARKS

The undersigned, a pro-se applicant, respectfully requests that if the Examiner finds patentable subject matter disclosed in this application, but feels that Applicant's present claim is not entirely suitable, the Examiner draft one or more allowable claims for applicant. The applicant only wants to have protection for the structure of a chip package exactly as shown in the drawings of the specification.

This case has been carefully reviewed and analyzed in view of the Official Action dated August 29, 2002.

The Examiner has objected to the drawings because they include reference sign(s) not mentioned in the description. A red-lined copy of the drawing for FIG. 6 is submitted for the Examiner's approval.

Further, the Examiner has objected to the disclosure because of informalities. The disclosure has been amended to obviate this objection.

Furthermore, the Examiner has objected to claims 1, 2 and 3 because of informalities. Claims 1-3 have been canceled and replaced with new claim 4 which is carefully drafted in order to avoid this objection.

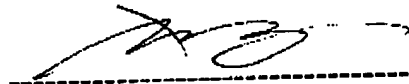
Moreover, the Examiner has rejected claims 1-3 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-3 have been canceled and replaced with new claim 4 which is carefully drafted in order to avoid this objection. However, if the new claim still does not comply with this requirement, an Examiner's amendment is earnestly solicited.

In addition, the Examiner has rejected claims 1-3 under 35 U.S.C. 102(b) as being anticipated by Kamei et al, U.S. Patent No. 5,528,698. However, it is respectfully requested that this rejection be withdrawn in light of the following reasons.

Kamei et al, U.S. Patent No. 5,528,698, discloses a vehicle sensor system for the presence of an object in the interior of a vehicle and classifying an image of the object. However, this reference fails to disclose a structure of a chip package for a digital photographic lens device having a lens device assembly, a flexible circuit board and a hard thin plate, said assembly includes a top housing, a lens in said top housing, a chip mounted under said top housing, said assembly being mounted on said flexible circuit board, said flexible circuit board being connected to a back panel of said digital photographic lens device and being mounted with said hard thin plate to provide supporting strength and insulation a connection thereof, said hard thin plate being mounted on a bottom of said flexible circuit board, said flexible circuit board having electrically conductive connection points printed onto a combination strap body so that said flexible circuit board is pre-fabricated and packed into a reel, facilitating production process, a surface of said flexible circuit board being a layout with flexible electrical connection circuit of related circuit. Hence, this reference can be clearly distinguished from the present invention.

It is now believed that the subject Patent Application has been placed in condition of allowance, and such action is respectfully requested.

Respectfully submitted,



Signature

Chih-Yu Ting

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VERSION WITH MARKINGS SHOWING CHANGES MADE

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SUMMARY OF THE INVENTION

Accordingly, it is an object of the present invention to provide an improved structure of a chip package, wherein a flexible circuit board is folded or bent to minimize the volume of the entire structure such that more components can be mounted with a similar space and the space is used to the greatest extent.

Yet another object of the present invention to provide an improved structure of a chip package, wherein minor adjustment of the digital photographic lens device can be obtained, allowing slight adjustment of the shooting angle and distance of the object.

An aspect of the present invention is to provide an improved structure of a chip package for ^{use} ~~used~~ in the package structure of a digital photographic lens device with hidden chip connected with transmission lines, characterized in that the improved structure comprises a section of flexible circuit board and a hard thin board and the mounting legs of the photographic lens assembly are mounted onto the flexible circuit board having corresponding ^{electrical} ~~electrically~~ connection points, and the flexible circuit board is connected to the back panel of the digital photographic lens device and is mounted with the hard thin plate.

The foregoing object and summary provide only a brief introduction to the present invention. To fully appreciate these and other objects of the

DETAILED DESCRIPTION OF THE PRESENT INVENTION

For the purpose of promoting an understanding of the principles of the invention, reference will now be made to the embodiment illustrated in the drawings. Specific language will be used to describe same. It will, nevertheless, be understood that no limitation of the scope of the invention is thereby intended, alterations and further modifications in the illustrated device, and further applications of the principles of the invention as illustrated herein being contemplated as would normally occur to one skilled in the art to which the invention relates.

Fig. 2 is a perspective view showing an improved structure of the chip package implemented on a digital photographic lens device. As shown in the figure, the present improved structure of the chip package can be used in digital photographic lens device with hidden chip connected to transmission lines. The digital photographic lens device has a lens device assembly 100, a flexible circuit board 200 and a hard thin plate 300. The digital photographic lens assembly 100 does not ^{have} ~~has~~ a base housing 10, and a hard base seat 20 as that of a conventional photographic assembly. The digital photographic assembly 100 includes a top housing 101, a lens 102 and chip 103. On the package structure, the digital photographic lens assembly 100 is mounted onto the flexible circuit board 200 having corresponding electrical connection

points. The flexible circuit board 200 is connected to the back panel of the digital photographic lens device, and is mounted with the hard thin plate 300 to provide supporting strength and insulation at the connection thereof. Thus, the chip 103 can be mounted at a corresponding position on the flexible circuit board 200 by surface mounting technology. After that, on the bottom of the board 200 the hard thin plate 300 is then mounted. After that a top housing 101 is mounted onto the hard thin plate 300 and is formed into a solid structure. In implementation, as shown in Fig. 4, the flexible circuit board 200 can be an electrically conductive connection points printed onto a continuation strap body so that the flexible circuit board 200 is pre-fabricated and packed into a reel, facilitating production process. The reel is continuously packed and subsequently cut into sections. The flexible circuit board 200 is extended out at one end of the digital photographic assembly 100 and a folded length is reserved. The surface of the flexible circuit board 200 is ^a layout with flexible electrically connection circuit of related circuit 203. On the circuit 203, related electronic components 204 are soldered. Thus, the related electronic components 204 on the hard circuit board is not needed to proceed with the soldering of the electronic components 204.

After the entire structure is packed, i.e., as shown in Fig. 5, the bottom of the lens assembly 100 is provided with a folded flexible circuit board 200 to

increase the volume of directional extension. The flexible circuit board 200 is flexural and therefore, the lens assembly 100 can be bent to various ^{positions} ~~position~~, or as shown in the figure, the circuit board 200 which is extended out of the photographic lens assembly 100, includes the electronic components 204 on the board 200, is bent to the bottom of the hard thin board 300 to form a plurality of folds. By means of the folding of the flexible circuit board 200, the height of the position of the mounting can be changed, or allows angle of photography or and the distance of the object. As shown in Fig. 6, there is shown another preferred embodiment of the present invention, prior to the soldering of electronic components 204, the flexible circuit board 200 surrounds the entire lens assembly 100 so as to minimize the volume, facilitating shipment or storage.

In view of the above, the present improved structure of a chip package facilitates the mounting position and minimizes the volume, facilitating shipping or storage space, and employs a minimum space to accommodate a maximum of parts.

It will be understood that each of the elements described above, or two or more together may also find a useful application in other types of methods differing from the type described above.

While certain novel features of this invention have been shown and